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"CRIPPLES" IN LAMBS*

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In the spring of 1929 one of our members directed my attention to a curious condition occurring among young lambs bred on certain farms within this county. The affection was somewhat loosely termed "cripples," "stiffness" and "rickets," and the characteristic features appeared to be stiffness of gait and an abnormal fragility of long bones and ribs which resulted in their frequent fracture arising from comparatively trivial causes. The general attitude of affected lambs at once suggested a pyæmic infection, but the eyes were bright, the joints neither swollen nor tender, while at *post-mortem* there was an entire absence of sepsis in the umbilical region, liver or joints.

All the cases examined exhibited no abnormality other than in the long bones and ribs, which showed what apparently was a condition of imperfect osteogenesis. In several cases the ribs were extremely brittle and snapped across on the slightest manipulation; in others the bony shafts appeared to have been forcibly torn away from their epiphyseal junctions.

The trouble was not considered entirely new, since all shepherds are acquainted with varying degrees of "leg weakness" in lambs, attributed to exposure, feeding with cow's milk, joint trouble, "swingback" (ataxia), etc., but the occurrence of large numbers of crippled lambs from no very obvious cause was regarded as unusual and alarming. Generally speaking, flockmasters were inclined to consider that the stiffness was non-specific in nature, and connected or aggravated by the backward nature of the seasons. Nothing further was done that year, but on the basis of local opinion and on general grounds it was recommended that crippled lambs be treated with cod-liver oil daily, and in some cases this appeared to be followed by amelioration of the condition.

Later enquiries showed that the occurrence of the disease was by no means accidental, and that in all probability "cripples" has a fairly wide distribution over the pastoral districts of the northern province. On several farms the number of stiff or crippled lambs approached one-half of the total number of lambs born, and it was noted that similar systems of sheep management prevailed on all these farms. All are grassland holdings, *i.e.*, permanent pasture farms with no plough land, situated geographically midway between the uplands or higher grazings and the lowlands. These farms comprise poor to moderate land where the herbage has been improved and the stock-carrying capacity increased by application of the principles of modern grassland management. Food is plentiful in late summer and autumn, and hill-bred Blackface and Cheviot ewes are purchased to replace that proportion of the ewe stock which is annually fattened off. The change of pasture reacts favourably on the ewes, which by November are in flushed condition when mated with the Border Leicester ram in order to produce cross-bred lambs for the butcher. A large proportion of these ewes produce twin lambs, each larger than the single pure-bred lamb which constituted their normal yield prior to drafting, and the question arises whether there is a compensating improvement in the quantity and quality of the food throughout the winter months; or, stated in another way, is there any evidence that pastures, adequate as they may be in autumn, provide insufficient total calories or inadequate protein, and/or too little mineral matter for optimum physiological needs during the four rather barren months from January onwards?

In normal years it is not customary to supply any artificial or concentrated foods or even hay to these ewes; they are grass fed entirely throughout the period of gestation. Many farmers admit that the flocks would probably benefit from a ration of oats or concentrates, especially in early spring, but this is generally withheld on the score of expense. So far as one can tell by casual examination, the condition of the ewes as lambing time approaches appears to be satisfactory. The ewes have certainly lost flesh and probably also weight, but are free from the usual and visible signs of malnutrition.

The Clinical Condition

FARM HISTORIES.

I will not trouble you by detailing all the farm histories. Perhaps, however, I might mention particulars of one which may be regarded as representative of a series.

Farm No. 1.—This farm consists of poor to moderate grass land bordering heath. The pastures have been improved during the past fifteen years by the application of nitrogenous and phosphatic manures, with a consequent increase in the stock-carrying capacity of the farm by about 20 per cent. This farm carries a Blackface breeding stock of 300 ewes, which are

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crossed with the Border Leicester ram to produce early maturing lambs. Each autumn a fresh draft of ewes is purchased from higher grazings to replace that proportion of the stock from which it is no longer desired to breed. These ewes benefit from the change of pasture and are in bloom condition at mating time, and it is believed that flushing the sheep in this way results in a larger percentage of lambs. About 60 per cent. of the ewes produce twin-lambs in April and the remainder singles. At no season of the year are these ewes given artificial food or hay, being entirely grass fed and dependent upon the quantity and quality of the pasture available. In spring the ewes are noticeably thinner than in autumn; the owner, nevertheless, considers their condition compatible with health.

In 1929 ten clinical cases of "cripples" occurred, lambs between the ages of 7 and 14 days being affected. Fractures were common in various bones, and it was observed than any sudden movement, such as that caused by fright, might result in broken bones. One lamb showed healing fractures on the lower thirds of about a dozen ribs, as well as four broken long bones, all of which occurred *ante-mortem*. The trouble showed itself in the following years, twins and single lambs being affected in very much the same proportion.

SUMMARY

(i) The farms where the condition termed "cripples" has been specially noted are similar in type and pasture.

(ii) The systems of feeding and general management on these farms have been noted to be almost identical in each case.

(iii) No artificial food or even hay is fed to the ewes during pregnancy. The ewes are entirely grass fed.

(iv) While cases have been noted in single lambs, the disease is commoner in one or both of twin-lambs.

Another observation is worthy of mention. As previously stated, all these grass farms have been partially improved by the use of phosphatic and nitrogenous manures, but it seems certain that this improvement, commenced 15-20 years ago, is scarcely being maintained, since there is a general tendency among agriculturists to balance lean times by reliance upon improvements wrought during the more prosperous years.

SYMPTOMS.

At first affected lambs show only slight difficulty in rising and lag behind the dam. The following day such a lamb may be noticeably stiff. The gait is slow and jerky, the head depressed and the limb joints are not flexed, so that the feet are scarcely lifted from the ground. There is no ataxia. This state progresses and crippled lambs may become unable to rise and are found apart from their dams. The general appearance of crippled lambs is bright and healthy, and body condition may be maintained if they are regularly suckled. When food is scarce, however, the ewe often wanders off with the healthy lamb, disregarding the cripple, which is then fed on cow's milk.

The stiffness affects both fore and hind limbs, but manual examination fails to discover evidence of inflammation. There is no tenderness or swelling over the bones or joints, no hyperæsthesia or anæsthesia of the skin, and an entire absence of the rigid contraction of muscle groups such as is described in the so-called "stiff lamb" disease of Metzger and Hagan. Muscle atrophy from disease is seen in lambs which have lain on the ground for days.

A striking feature in typical cases is the presence of broken bones. This may be unsuspected until lambs unable to rise are found to be suffering from one or more broken long bones. Palpation along the length of the ribs frequently reveals nodes, indicating healing fractures, which may be numerous. Accidental pressure on a rib may cause its spontaneous fracture, a fact which emphasises the brittle nature of the bony structures. Broken bones have not been encountered on all affected farms, but in the opinion of the writer the liability is always present.

Lambs between the ages of six days and two months have been recognised as affected with "cripples," but the most susceptible period would appear to be from one to two weeks. In uncomplicated cases prognosis is good, and since the symptoms are of a mild nature, involving no systemic disturbance, recovery, partial or complete, usually occurs in the course of a few weeks. On the other hand, recumbent cases frequently succumb to the intercurrence of pneumonia, exposure, and drowning.

LESIONS.

In the cases examined the bones appear to be the only structures affected. Simple fractures have been noted in the humerus, femur, metacarpus, and in ribs, but in many long bones the appearance presented was as if the shaft had been torn away forcibly from its superior epiphyseal attachment.

In general the ribs are brittle and break easily. Fig. 1 (exhibited) shows the thoracic wall of a "crippled" lamb, and the series of swellings on the lower portion of successive ribs denote healing fractures which probably occurred during the act of parturition.

[Here the essayist handed round pathological specimens and photographs illustrating the bony changes. Adventitious tissue of a calcareous nature was clearly seen buttressing the shafts of several affected long bones, while in others the epiphyses were absent, having been torn away near their cartilaginous junctions.]

Microscopically the lesion resembles a porotic malacia of sorts. Compared with normal lamb

bones of the same age, sections from "cripples" cases show a poorly developed corticalis, slender bone trabeculæ, deficiency of osteoblasts, and some irregularity of endochondral ossification.

These abnormalities result in the formation of bones probably deficient in both quantity and quality, and since resorptive changes dominate the picture, the result is a porotic bone.

BLOOD ANALYSES.

Samples of blood were obtained from twelve typical cases of "cripples" by the simple expedient of cutting a piece off the tail, and the plasma was examined for its calcium and phosphorus content. Expressed in mgs. per 100 ccs. plasma the Ca value (average) was 9·68, while the P figure was 8.23. Ten normal healthy lambs obtained from a farm where the disease is unknown were next examined, and the Ca average was 11.04 mgs.; P 13.05 mgs. Five recovered lambs were then bled and the plasma examined. The average figures are Ca 10.84 mgs.; P 11.06 mgs.

	Ca.	P.
Affected lambs ...	9.68 mgs.	8.23 mgs.
Recovered lambs	10.84 „	11.06 „
Normal lambs ...	11.04 „	13.05 „

Discussion

A brief description has been given of an interesting disease of lambs characterised by muscular stiffness, inability to flex the joints and by abnormal fragility of long bones and ribs, resulting in their frequent fracture. The disease is known as "cripples," "stiffness," and also "rickets," and if uncomplicated is probably seldom fatal, but as many cases become unable to move, deaths from intercurrent disease are common, and ewes may deteriorate through improper suckling. Clinically, the affection resembles joint ill in lambs, but there is an entire absence of sepsis, and the symptoms are probably related to imperfect osteogenesis causing the formation of a type of bone deficient in quantity and/or abnormal in character.

"Crippled" lambs show symptoms resembling the so-called "stiff lambs" disease reported by Metzger and Hagan as occurring almost enzoötically in the State of New York. Here the stiffness is stated to be due to changes in the muscles over the affected parts, these being described as "degeneration of the muscles with coincident connective tissue formation." Mild cases of "stiff-lambs" show muscles streaked with whitish lines running parallel with the fibres, while more advanced cases showed streaks so numerous as to cause the entire muscle to assume a whitish colour (*op. cit.*). Greyish-white muscle lesions of a degenerative nature resembling the above described have occasionally been noted in "cripples" cases, which have lain on the ground for five or six days, but their infrequent occurrence and absence in early cases indicate their distinction from the primary cause of "cripples," and suggest that they are probably secondary in nature. The opinion that the white muscle streaks in "stiff-lambs" are of secondary import is also given by Jungherr and Welsh. The etiology of "stiff-lamb" disease is obscure, and although considered non-bacterial in nature no satisfactory theory has as yet been advanced. Several bacteriological examinations have been conducted on suitable "cripples" cases killed for the purpose. Almost all the internal organs have been examined, using the ordinary ærobic and anærobic culture media of the laboratory, but with negative results. While a micro-organismal cause is not thereby entirely excluded, it may be added that no case has ever shown any of the common signs of bacterial activity.

Constitutional diseases of cattle and sheep associated with mineral deficiencies of the soil and herbage have been reported from many parts of the world, and it is germane to examine "cripples" in the light of this knowledge. Theiler, Green and Du Toit clearly showed that in many areas of South Africa deficiency of phosphorus was the limiting factor in profitable stock-farming, and that two important diseases, lamsiekte and styfsiekte, can be prevented by liberal bone-meal feeding. Later Du Toit, Malan and Roussouw, discussing phosphorus in the nutrition of sheep, state that a deficiency in dietary phosphorus is rapidly reflected by changing level in the inorganic phosphorus of the blood. Further, under conditions of phosphorus deficiency animals lose weight. Blood analyses of twelve "cripples" cases gave an average figure of 8.23 mgs. inorganic phosphorus, against a control figure of 13.0 mgs. While there is as yet a dearth of figures indicating the normal amounts of inorganic phosphorus in lambs, the figure obtained for "cripples" cases would appear significantly low, *viz.*, a 40 per cent. decrease in inorganic P. (average figure). Also, recovered lambs showed a rising inorganic phosphorus index running parallel with their improved state. In most deficiency diseases, on the other hand, the mother sacrifices herself by drawing on her skeletal reserves for the nutrition of the fœtus, and in aphosphorosis one would expect evidence of osteomalacia or osteoporosis in the bones of the dam. This has not been observed, but it is also true that no opportunity has presented itself for a detailed examination. Certainly the presence of healing fractures on the ribs of young lambs points to a dystrophic state of the bones before birth, and that the fractures probably occur during the act of parturition.

Bekker and Roussouw record skeletal abnormalities, with brittle bones, in the sheep of the Bredasdorp district, and state that the sheep must be handled with care owing to the risk of fractures. The figure for inorganic phosphorus in the blood of these sheep is shown as less than half that of normal sheep. In Britain, Orr has noted a disease of sheep occurring in parts of

Scotland, known locally as "croitich," which is characterised by softening and fragility of the bones, and it is thought that the condition is associated with a deficiency of calcium and phosphorus. The disease is most prevalent in growing sheep, but may also occur in fully grown adults. Orr also states that one of the most important practical questions in connection with certain Scottish grazings, notably in the Highlands, is the depletion of minerals in rough pastures with consequent deterioration of stock.

Chemical analyses of soils and pastures from farms affected with "cripples" have shown figures low in lime and phosphorus, and in a recent paper Shearer and Stewart have found the content of calcium in the blood of sheep below normal as a result of the deficient nature of Northumbrian hill pastures. Evans has noted stunted growth in mountain sheep and cattle grazing on pastures in Wales which are low in calcium and phosphorus. Consequently, there is a certain amount of evidence tending to support the view that "cripples" may be an indirect manifestation of mineral depletion of the soil. On the other hand, the record of work carried out in South Africa shows that when osseous disorders were encountered in cattle and sheep, the deficiency of soil and pasture minerals (mainly phosphorus) was of a gross nature. In "cripples," however, there is no evidence of gross deficiency, and the animal mechanism must be credited with the ability to adjust or compensate deficiencies within a certain range, otherwise clinical evidence of deficiency would be much more frequent. Further, Theiler and Green have pointed out that the absolute intake of phosphorus is determined mainly by the grazing requirements of the animal, so that low calcium and phosphorus figures for soils and pasture do not in themselves constitute evidence of their unsuitability for stock. It might well be that the absolute intake of phosphorus in the case of the ewes concerned merely falls below what is necessary for optimum requirements, and the question may now be put: does this factor operate in the causation of "cripples"?

Since this and related problems have an important practical bearing on sheep-farming, it is proposed to institute fuller enquiries into the circumstances associated with the occurrence of "cripples." It is hoped that the experiments in connection with this investigation will have a bearing on cognate problems of sheep husbandry, and the work will be carried out under the Alan, Duke of Northumberland, Memorial Bequest.

Members' Discussion

Mr. F. Pickering said that the short paper they had just heard in no way represented the amount of work already done on the subject, and as yet the investigation was only in its early stages. He (Mr. Pickering) had had cases of stiffness in lambs, which he realised might not be the same disease. These animals had been fed with various minerals, without improvement. Later he had used rock salt with advantage.

Mr. W. J. Young had seen cases of this disease in the North of Scotland. He was glad that Mr. Stewart had not named the condition rickets. Rickets was a softening of fully-developed bone, and he did not think this occurred. He was not sure about the origin of the adventitious tissue referred to by Mr. Stewart. This problem of "cripples" was linked closely with biochemistry and pure agriculture. Most pastures were deficient to some extent, and that was a problem to be solved by agriculture. The investigation of the disease might well become a problem of chemistry, and might ultimately be found to be an aphosphorosis.

Mr. H. S. Elphick enquired whether there was any evidence to show that the condition was transmitted through the ewe. Had it been found that successive crops of lambs from the same ewe were affected with the disease?

Mr. J. R. Rider remarked that in some respects the disease resembled lamsiekte in cattle in South Africa, described by Sir Arnold Theiler and his co-workers, and that this condition had been shown to be an aphosphorosis.

The Reply

In his reply to the discussion, Mr. Lyle Stewart said he was well acquainted with the difficulties of the problem, and had in his brief address sought to adopt an open-minded, non-committal attitude. He was aware that the giving of rock salt to sheep was a popular measure with flockmasters. Possibly it was beneficial and, at any rate, was unlikely to cause any harm. Mr. Stewart agreed that, so far as he knew, the disease was not rickets. Preventive measures were not yet understood, and it seemed obvious that much team work would be necessary if progress was to be made. He believed, however, that no matter who might be called upon to assist, the question was primarily a veterinary one.

They were not in a position to answer Mr. Elphick's point with regard to transmission through the ewe, but he had encountered ewes which produced successive crops of diseased lambs. He might say that lamsiekte had been reported among sheep. This interesting disease was caused by a specific toxicogenic anærobe, which was ingested by animals along with putrid flesh and bones from decaying carcasses. The factor responsible for this depraved appetite, or osteophagia, as it was called, was primarily a gross aphosphorosis. He was sorry that no one had mentioned that a loss of weight might occur during pregnancy. The essayist thought that in many cases a considerable loss of weight did occur at a time when one might expect rather the contrary, and he intended to investigate this point by means of regular weighings of pregnant sheep.

The pig population of England and Wales was considerably greater last year than in 1931, the total number being given as 3,184,530, compared with only 2,783,000 in the former year—an increase of 401,530. In Scotland, too, there was a slight increase, there being 3,122 more pigs than in 1931, the total number being 165,325. Both in Northern Ireland and the Irish Free State there were fewer pigs in 1932 than in 1931, the decreases being 15,905 and 118,688 respectively, and the total for the whole of the British Isles, 4,796,625, compares very unfavourably with over 5,000,000 in Denmark. Germany now has over 20,000,000 pigs, and the United States about 55,000,000.

PARAT LEAVES IN THE TREATMENT OF STERILITY AND VAGINITIS: II

J. F. D. TUTT, F.R.C.V.S.
WINCHESTER

The former communication on the use of Paratblattchen (Atarost) aroused much interest amongst members of the profession, and no apology therefore is offered for a further communication on the use of Parat leaves in the treatment of sterility and vaginitis, citing the opinions of two Continental observers, and adding comments of my own.

Dr. H. Meents, veterinary surgeon, Dykhausen (East Friesland), reports as follows:—

"For the treatment of vaginitis I used vaginal sticks, pessaries, ointments, etc., for many years without being entirely satisfied, as they are all more or less wrapped up, as it were, in the mucus. Two years ago I made a trial with Parat leaves, being persuaded to do so by several colleagues. I have used them on 250 animals and have had excellent results, so much so that the farmers themselves insist upon having them. I have been able to verify the claim that these leaves work well in practice and have a very high disinfecting value. The treatment consisted in the insertion of Parat leaves at intervals of five to six days. The majority of the animals, however, were healed by just one application. The mucous membrane soon healed, and the knots disappeared.

" I have also used these leaves in cases of abortion with excellent results, as after treatment many animals became pregnant. Naturally before treatment, rectal examination of the womb was made. With Parat leaves I have also cured sterility, as through the ready hyperæmia of the internal genital organs which is produced, the stimulus to pregnancy is largely encouraged. An insertion of a double leaf 2-3 hours after a cow has been served, and a further insertion a week later, help considerably in fighting sterility, and personally I have never had a failure with a cow which has been previously reported to me as barren.

" With Parat leaves we have a remedy which for simplicity of handling, certainty of success, and the short time taken in the treatment of vaginitis, sterility, etc., stands out from all others. They are also very clean to handle and do not stain the hands at all."

Dr. Brodermann, veterinary surgeon, of Karstadt reports:—" I have used Parat leaves and sterility powder for three years—the Parat leaves mostly for vaginitis and when no examination was desired, and the sterility powder for sterility. This powder is excellent for all after effects of calf-slipping, uterine catarrh, and the closing of the cervical canal. If the cervix and the vagina are dusted with sterility powder, the uterine contractions are strengthened and last longer, and the contents completely emptied. Complete success follows within a week. Subsequent treatment can be left to the farmer, if necessary, he being instructed to insert a double Parat leaf every three days. Three insertions suffice. These two remedies are excellent and answer every demand for vaginitis and sterility."

COMMENTS

I do not agree with Dr. Meents that Parat leaves should be inserted 2-3 hours after service. Severe straining often follows their insertion, and their use is best delayed until the day following. Better results have been obtained by so doing. In cases where straining is severe, in future applications the green parenchymatol leaf should be inserted on the outside with the white zinc leaf on the inside. There is no need to attempt to insert them into the os uteri externum; in fact, unless the animal is in œstrum and the canal dilated, this will not be possible. The leaves should be inserted as far forward into the vagina as possible, so that they will be retained. In the case of heifers it is often not possible to insert the arm, and forced attempts to do so will cause more harm than good. In these cases the leaves can be inserted between two fingers and pushed forward with the tips of the fingers; or, better still, they can be put in by using a pair of long forceps, inserting them between the blades.

It will be noticed that both these veterinarians, as do so many Continental authorities, regard this line of treatment as a cure-all for all types of sterility. I do not think that my colleagues in this country are likely so to regard it. Sterility must be treated on its merits and with due regard to its causes. I have been struck by the large number of those who have written me, who report failure with the Nielsen line of treatment. Whilst not posing as an expert on the subject, I am inclined to think that, here again, the cases have not been carefully selected, and that the practice has been to treat each and every case on these lines, whether or not the uterus demanded iodine injections.

In cases of pyometra, and where much pus is present, an intra-uterine injection of a 1 per cent. solution of Rivanol gives, on the whole, better results than iodine. In other cases, I think that the value of the iodine is enhanced if a preliminary flushing out with normal physiological salt solution is carried out. This is merely my opinion.

The question of vaginits as a cause of sterility is one on which opinion has always been sharply divided. In my opinion it is a frequent and often overlooked cause of sterility—especially in young heifers. I have found that where

a marked degree of vaginitis is present, attempts at conception are useless until this has been cleared up. I agree with Dr. Meents that vaginal sticks, pessaries, and ointments are of little value. The best application is an antiseptic powder, applied by means of a rubber powder blower, whilst the vulvar lips are held apart by an assistant. The carbolic powder sold under the name of Camphalum has been found to be a cheap and effective remedy. The sterility powder referred to by Dr. Brodermann consists of Parenchymatol, yeast and zinc. It is sent out by the Atarost company, in glass tubes, each tube containing sufficient for one application. It is stated that rarely more than one application is necessary. The contents are blown into the vagina in the way already described for powder applications in general.

Reference is made to abortion, and here again the vexed question of the relationship between abortion and sterility will arise.

It is concluded that both these veterinarians are referring to abortion due to *Br. abortus* Bang. The correct view appears to be that which is held by Williams, namely, that in the case of naturally-occurring cases of contagious abortion attributable to *Br. abortus* Bang, the subsequent sterility is due, not so much to this organism, but to the invasion of the non-involuted uterus by secondary organisms, which keep up the inflammation long after the *Brucella* can no longer be found in the uterus. In general practice it is commonly noted that where the placental membranes are not retained, sterility does not usually follow, and this applies not only to cases of abortion (whether of an infectious nature or not) but to cases of full term parturition. Retention of the placental membranes is a certain indication of an abnormal condition existing within the uterus. The expulsion of these membranes in cases of contagious abortion would appear to depend entirely on the extent to which the disease has attacked the uterine wall. In those cases of sterility which sometimes follow the use of a living vaccine for purposes of immunisation, the cause is attributable to the uterine catarrh induced. This, I think, has been satisfactorily proved by the researches of Quinlan in South Africa. It has been stated that there is no risk to fertility by the use of a living vaccine, but that, on the contrary, its employment has been followed by fertility in previously sterile cows. Whilst admitting that, on the sum total of evidence, the risk is not a great one, I think it should be borne in mind that if the *Brucella* is pathogenic there must always be a risk in using a living vaccine. With regard to the latter part of the statement, it is quite true to say that following its use on cows previously sterile, fertility has been evidenced, but it does not appear correct to give the credit for this to the vaccine. When such experiences occur, they tend to support the theory once held by the late Sir Stewart Stockman, that there is a type of infective sterility—apart from abortion results—which runs its course like that disease, and from which, by " passage," there arises an immunity. In the instances referred to, then, this immunity had died down when vaccination was started, and the vaccination has been given the credit on the usual erroneous assumption: " *post hoc, ergo propter hoc.*"

In general practice it is by no means uncommon to find with sterile cattle—especially heifers—that after a long period of apparently fruitless efforts at restoring fertility, conception occurs.

WAR OFFICE AND LIGHT HORSES

Purchases for the Army

Lord Digby (President-elect) presided at a recent meeting of the Council of the Hunters' Improvement and National Light Horse Breeding Society, and stated that Earl Fortescue had accepted an invitation to become President in 1934.

The Secretary reported that entries were being received for the Hunter and Thoroughbred Show to be held at the Royal Agricultural Hall from February 28th to March 2nd, and in the seven classes for hunter young stock, 91 entries had been received. So far only 19 entries had been tendered for the hunter riding classes, but entries for this section had not yet closed. Seventy-one thoroughbred stallions had been entered for the 50 premiums of £50 which the Society proposed to offer at their coming show.

Colonel Alexander, of Melton Mowbray, stated that, although the Government had withdrawn the annual grant for light horse breeding, the War Office were still anxious and willing to encourage the breeding of light horses in Great Britain, and would, if possible, buy suitable horses for army purposes that were shown to their representatives by prospective sellers.

Details of several additional grants for premium stallions were announced, and the Council noted the possibility of other societies increasing the amount of the premiums for stallions allocated to their districts. It was hoped that other county and agricultural societies would see their way to supplement the premiums already given by this Society to encourage light horse breeding.

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BLACKPOOL CONGRESS OF THE ROYAL SANITARY INSTITUTE

The Congress of the Royal Sanitary Institute will be held this year at Blackpool, from June 17th to June 24th, at the invitation of the Corporation. This is the forty-fourth Congress held by the Institute, and these Congresses, at which municipal representatives and public health officers attend in large numbers, afford many valuable opportunities for the discussion of all phases of public health administration.

The Rt. Hon. Lord Cozens-Hardy, D.L., is the President of the Congress, and he will deliver the inaugural address to the Congress on Monday afternoon, June 19th.

The work of the Congress will be divided into sections, amongst which are those dealing with Preventive Medicine and Veterinary Hygiene.

A large Health Exhibition is being arranged in connection with the Congress.

Clinical Communications

FOREIGN BODY IN A COLT

C. G. HILL, M.R.C.V.S.
Darlington

Subject.—Thoroughbred colt, two years old.

History.—This colt had been performing satisfactorily in a number of races on the flat, but after going well for three-quarters of the distance seemed to "fade away." Several opinions had been given as to the cause of this. I was called to see him late one night, as he was thought to be suffering from pneumonia.

Symptoms.—Great pain, accelerated respirations, temperature normal, pulse almost imperceptible.

Diagnosis.—"Twist."

Post-mortem.—The floating colon was found to be held by adhesions to the ventral aspect of the spine, the abdominal wall and diaphragm. The adhesions were circular in form and about 12 inches in diameter. In the centre of the adhering part of the colon was a round hole about a-quarter of an inch in diameter. There was fibrous thickening of the bowel around the rupture. In the colon was found a piece of cane, over ten inches long, which had apparently caused the rupture and had evidently been there some considerable time. About two feet from the rupture there was present a complete twist. The other organs were healthy.

Remarks.—The interesting feature of this case is the size of the foreign body, especially with such a history. Had the cane been swallowed? There is every reason to believe that it had, as there was no evidence of an old-standing general peritonitis.

This colt had been attended by other veterinary surgeons in the six months previous to its death, and pleurisy, pneumonia and heart trouble had been diagnosed.

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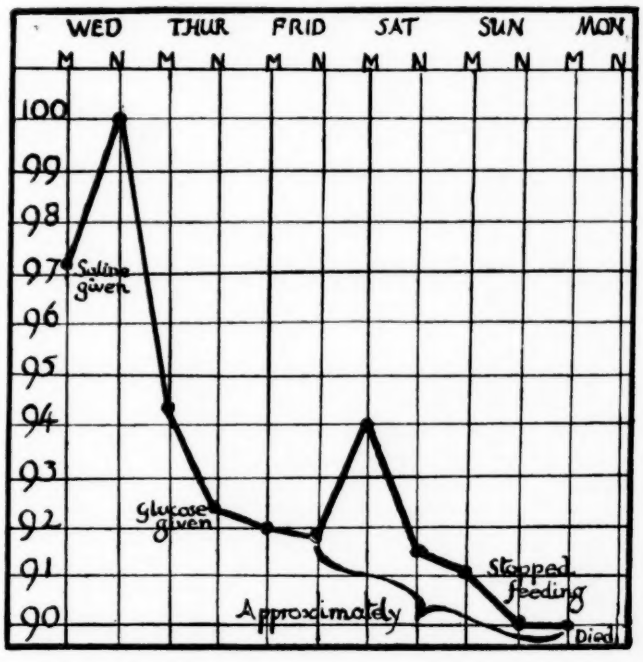
UNUSUAL TEMPERATURE - CURVE IN THE BITCH

A. L. BARTHOLOMEW, M.R.C.V.S.
Darlington

Subject.—Rough terrier bitch, five years old and in good bodily condition.

History.—Had been "off-colour" for two or three weeks and had been under treatment by a chemist, who had prescribed aspirin and quinine. She had had two litters of puppies, but had not been pregnant for over a year.

Symptoms.—When first seen she was in a collapsed state; temperature 97·2 degrees, pulse irregular in frequency and strength, extremities cold, mucous membranes pale, etc. After treatment with salines, etc., she seemed fairly bright and fed well, the only symptoms present being incoördination of movement and the abnormal heart-beat. The temperature rose to 100 degrees, but started to fall again in a very short time. The bitch kept eating and incoördination of movement did not seem to get any worse. This continued until the temperature dropped to 91 degrees (approximately) on the fourth day, when she stopped eating and blood-stained diarrhœa was evacuated. The motions had been well formed and normal in colour until that day. Salines, camphor, glucose and calcium were of no avail, and the bitch died the following morning. The thermometer would not register anything at all for twelve hours before death.



Post-mortem.—Acute enteritis throughout the length of the bowel. Brain and heart were normal to microscopic examination.

Remarks.—This case is recorded because of the remarkably low temperature reached before death and the fact that the bitch kept eating and seemed fairly well, except for the incoördination of movement, even with a temperature below 92°.

INTELLIGENCE IN ANIMALS

Dr. C. W. Kimmins, in the course of a recent address to the University of London Animal Welfare Society on "The Sense of Humour in Animals," said that humour was correlated with intelligence, and referred to the paper read at the meeting of the British Association at York, suggesting that what was regarded as intelligence in animals was really reflex action, and to the correspondence in *The Times* which followed. Those who read the letters, he said, would remember what astonishing evidence was forthcoming from all kinds of sources with regard to the great intelligence of animals. Children had an absolute belief in the intelligence and sense of humour of animals.

Abstracts

[Immunisation of the Maltese Goat against *BR. MELITENSIS* Infection by means of Cutaneous Vaccination. Zammitt, Sir Th., and Debono, J. E. *Lancet*, 1933, *1* (3), 134-136.]

In 1930 these investigators reported (*Lancet 1*, 1343) that they had succeeded in vaccinating a number of goats at Valetta to the point that these were able to withstand the subcutaneous injection of a virulent culture of *Br. melitensis* without developing an infection. The present article records the results achieved by a continuance of the work over twelve months, recommencing in April, 1931, the vaccine used being prepared from a special avirulent strain of *Br. abortus* obtained from the Central Brucella Station of the United States of America. Four separate 1 c.cm. doses of vaccine were injected intradermally into the udders of each goat. At the same time the udders and mouth were sprayed with the vaccine. These procedures were repeated a week later. No clinical reaction was noticed; the goats continued to feed and to milk normally. The outstanding advantage of the method is that no agglutinins are developed in the serum as the result of the inoculation; consequently, if a positive serum reaction occurs subsequently in a vaccinated animal it must be due to a definite infection.

The first step was to select eleven healthy goats, vaccinate them, and evaluate their resistance against the chances of natural infection as compared with non-vaccinated animals under the same test conditions. This preliminary experiment was successful in so far as it showed the correctness of the assumption that a healthy goat might become infected by mixing with diseased animals, and also afforded proof that vaccinated animals could mix with infected ones with relative impunity.

In order to test the immunity afforded by their method of vaccination still further, the authors next proceeded to try the effect of subcutaneous inoculation of a virulent culture of *Br. melitensis*. After 62 days, *post-mortem* examination showed the controls to be heavily infected (*Br. melitensis* being isolated from the udders, inguinal glands and spleen), whilst in the vaccinated animals no evidence of infection could be found.

As a method of infection mid-way in severity between actual inoculation with a virulent culture and exposure to natural infection, feeding experiments were carried out on both (vaccinated) goats and kids, using milk which had been heavily infected by the addition of large numbers of *Br. militensis* from agar tube cultures. After the lapse of 38 days the blood-serum from the control animals gave a strongly positive agglutination reaction, and corresponding *post-mortem* results were later obtained, while all the vaccinated goats and the kids were apparently unaffected.

Confidence is expressed, therefore, that if the goats of the islands are treated by the intradermal inoculation of the Zammitt-Debono vaccine, the spread of undulant fever can be effectively stopped. The authors recommend that the vaccinated goats and the kids born of infected mothers (which latter they believe to be naturally immune), now remaining at the Lazarettes, should be distributed amongst herds in the country, where they would be subjected to all the natural risks of infection, and kept under close observation for a period of, say, 12 months. Retention of immunity for that period would, under such conditions, conclusively establish the value of this method of immunisation.

W. B.

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[Enzoötic Hæmaturia (Hæmaturia Vesicalis) of Cattle in South Australia. Bull, L. B., Dickenson, C. G., Dann, A. T. Council for Scientific and Industrial Research, Commonwealth of Australia. Pamphlet No. 33.]

This disease appears to be met with in practically all countries, but is definitely regional. Thus, in South Australia it is largely confined to the district of Mount Gambier, and it was here that the authors did most of their work. The inquiry was an exhaustive one, and the problems requiring solution were approached from various angles, but no conclusions could be drawn as to the actual cause or causes of the condition. Its etiology seems as baffling as that of grass disease in Scotland; and in its intermittency, chronicity, and termination, it resembles Johne's disease.

Clinical.—From the clinical point of view it was found that many animals in a herd on a "red water" farm may be passing small quantities of blood in the urine and sometimes even large quantities, the owner having no suspicion that such animals are abnormal; and further, that about three years must elapse before a normal animal brought from outside the "red water" area will show clinical evidence of the disease. The authors conclude: (1) that certain farms are definitely more likely to give rise to the disease; (2) that a regular stream of cases does not always develop on any farm, but that after the disease has become manifest in several animals, a period of several years may elapse before more cases develop; and (3) that within the "red water" area some farms never show active cases of the disease.

Pathological. — Many *post-mortem* examinations were carried out and the tissue changes are well described. There appears to be no suggestion of an infective origin and the lesions involve more than one tissue of the bladder wall. There are vascular changes in the form of new vessel formation, congestion, hæmorrhage, and the almost constant presence of capillary or cavernous hæmangiomata, the tendency being in most cases to the formation of adenomatous or papillomatous new growths with occasionally a

frankly malignant neoplastic change in the form of an epithelioma. No support is given to the belief that acid soils favour the onset of the disease. The investigation is being continued.

Craig and Kehoe have reported on the disease in Ireland. It would be interesting to know to what extent it is met with in Britain.

F. T. H.

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[Report on the Examinations for Anthrax carried out in 1929 and 1930 at the Veterinary Laboratory at Uzhorod (Czechoslovakia); also a Contribution to the Laboratory Diagnosis of Anthrax. Weidlich, N. 1932. *Prag. Archiv f. Tiermed.* Vol. 12. No. 8.]

This is an important article from a diagnostic laboratory, a large majority of the activities of which is composed of anthrax diagnosis. In Eastern Czechoslovakia anthrax is widespread and 600 large domestic animals die annually from it (out of 200,000 cattle and 35,000 horses in 4,000 square kilometres). About 30 people annually also die from anthrax in the same region.

There are four useful laboratory diagnostic methods available for the diagnosis of anthrax—the microscopic, the cultural, the biological and Ascoli's precipitation reaction. The author describes and discusses the literature of each of these methods with regard to anthrax in cattle, sheep, horses and swine and does the same on the basis of his own experience of 1929 and 1930 covering over 1,000 cattle, 100 horses, 20 pigs and nine sheep. These tests include material taken from different parts of the carcass, and of these the spleen, blood, ears, skin and muscle are of most value. The results of the author's work are described and clearly set out in a table. Great variation between the results of the four individual diagnostic methods with material from a single carcass was common, and the reasons for this, as well as all practical points concerned with the tests, are discussed at length.

The author concludes that the Ascoli reaction is most valuable, hardly ever failing with cattle, but is not so reliable in other animals. A reliable and potent anthrax serum is very important here. The microscopic test is unreliable with putrefying material, and the Giemsa stain is best for it. Cultural tests are indicated when the two above have given a doubtful or negative result. Of importance in differentiation are motility, the appearance of superficial and deeper colonies on the agar plate, the growth in broth and the pathogenicity for laboratory animals. Animal inoculation is only performed in important cases, and mice are used.

Spleen and blood are the best materials to use for test, and next, ears and skin. Ears alone are sometimes unreliable in actual positive cases.

A reference list from German sources completes the article.

J. E.

[Anthrax of Pharyngeal Lymph Glands in a Young Bull. Weidlich, N. 1932. *Prag. Archiv. f. Tiermed.* Vol. 12, No. 7.]

A case record of a young bull which was slaughtered in emergency after being noticed for two days in distress with a swelling around the throat.

The author examined the tongue, larynx with associated parts, and parts of the spleen, liver, kidney and hind quarter musculature and also a forearm bone. The tongue showed an old wound in front of the dorsum (evidently the infection atrium), the pharyngeal and retropharyngeal lymph glands were acutely inflamed and showed petechiæ and necrotic foci. The spleen was swollen and hæmorrhagic and there were petechiæ under the capsule of the kidney. The other parts seen showed no marked abnormality.

Anthrax was positively diagnosed by microscopical, cultural and animal test methods.

The author considers that in all obscure deaths of cattle in the Carpathian region anthrax should be suspected.

J. E.

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[Bovine Mastitis in Livonia. Rolle. *D.T.W.* No. 39, October 24th, 1932. 609.]

Formerly streptococci were divided into two groups, hæmolytic and non-hæmolytic, the latter being regarded as apathogenic. It is now known that nearly all streptococci hæmolyse; not, however, in a uniform manner. In his researches on streptococcic mastitis in cows, the author has used the following methods to differentiate types of streptococci:—(i) Morphology, including length of the chains and individual forms; (ii) Colouring by Gram—here the author lays great stress on the time factor when staining with fresh carbol gentian violet and fresh Lugol's solution, and states that this forms a rapid method of identification; (iii) Hæmolysis and colony forms on blood plates; (iv) Colony forms on agar plates. (v) Growth and deposit in bouillon; (vi) Growth in milk; (vii) Growth in litmus milk, acidity, reduction and liquefaction; (viii) Pathogenesis for experimental animals. The morphology can best be judged in bouillon. The longest chains are formed by the galt streptococcus, while all others grow in short chains or singly, as is commonly seen in smear preparations from a diseased udder.

The author divides the mastitis streptococci into three groups:—(i) *Str. agalactiæ;* (ii) *Str. pyogenes*; (iii) All other mastitis streptococci.

The most virulent form of mastitis is the type produced by *Streptococcus pyogenes,* and this same micro-organism has also been isolated from a variety of other diseased conditions both in animals and men. Consequently, there is no justification for dividing *Str. pyogenes* into human, bovine and equine strains. All types of *Str. pyogenes* are pathogenic for experimental

XIIM

animals, and the author has demonstrated experimentally that cross infection to lactating cows sets up the typical disease in the mammary gland. Hitherto, this type of mastitis has been considered incurable and many valuable animals are slaughtered. Hence, it is important to differentiate this type of disease, and differentiation is best effected by noting the time required to stain by the author's modification of Gram's methods. Staining in thirty minutes indicates *Str. pyogenes*.

Galt streptococci have quite distinct morphological and cultural properties which serve in their identification. The author has, however, not seen a case of this type.

Forty per cent. of all mastitis cases are produced by "other types" of streptococci. The disease picture in such cases is similar and resembles *B. coli* mastitis, except that the body temperature is seldom so high. This type of mastitis is not so virulent and the organisms appear non-pathogenic for small animals. Prognosis is favourable, healing often occurring spontaneously. Chinosol infusions are favoured by the author. These organisms are distinguished by their growth in bouillon and by their requiring longer to stain by the method of Gram.

W. L. S.

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[***B. GIGAS* in Cattle.** Sörrensen. *D. T. W.*, No. 46, November 11th, 1932, p.734.]

Bacillus gigas was first described by Zeissler and Rassfeld in 1929, who isolated it, sometimes alone but often associated with other anærobes, in the organs of sheep which had died presumably from braxy (bradsot). Miessner, Meyn and Schoop cultivated this micro-organism in 15 out of 20 cases of braxy, and they consider it the principal cause of the above disease. This article deals with *B. gigas* isolated from an ox which died suddenly from a malignant œdema type of disease. After death putrefaction set in rapidly and *post-mortem* examination revealed changes in the liver, spleen and subcutis. Smear preparations and anærobic cultivation from the œdematous fluid showed a rod-shaped gram-positive micro-organism about 10 μ long by 1 μ wide, with terminal or central spores. The organism grew well in liver and brain broth, causing copious gas formation.

Culturally, *B. gigas* prefers the depth of the medium and causes hæmolysis. Colonies are oval in shape with pointed and twining processes. The culture proved pathogenic for guinea-pigs injected subcutaneously with small amounts, death occurring in 24 hours. *Post-mortem* showed severe swelling of the thigh and the organism was recovered from the œdematous fluid, but not from the liver either in smears or culturally. Guinea-pigs did not appear to be uniformly susceptible to experimental infection.

W. L. S.

[**Is the Antiscorbutic Vitamin Unimportant for Animals?** Chladek, V. *Prag. Archiv f. Tiermed.* 1932. Vol. 12. No. 9.]

The author discusses the literature on scurvy in man and animals and suggests that the lack of vitamin C may cause disturbances in the health of various domestic animals.

It has been found experimentally that ruminants, fowls, monkeys and rats need no vitamin C in their food. About horses there appears to be no reliable information, and the need of vitamin C for swine and dogs appears to be positive but slight. Young, but not adult, rabbits require vitamin C in their diet.

There is some evidence that purpura hæmorrhagica in animals represents a scorbutic state, and the author suggests than in young cats diarrhœa is probably scorbutic in nature: he has obtained cures in such cases by giving orange juice alone by the mouth. He also refers to the beneficial effects of orange juice in some cases of "bad doers" in horses.

It is stated that a normal intestinal flora is concerned with the synthesis of (unnamed) vitamins in the healthy body.

Hay is commonly supposed to contain no vitamin C, but the author questions this assumption. Numerous references terminate this paper.

J. E.

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[**Urinary Antiseptics.** Davis, E., and Sharpe, J. C. *J.A.M.A.*, December 17, 1932, p. 2097.]

These authors have made a study of the antiseptic value of a number of synthetic chemicals, including hexamine, hexyl resorcinol, pyridium, and acriflavine. The bactericidal values of these chemicals were determined by administering to normal male adults the unit safe maximum dosage of each drug and collecting samples of urine at intervals of two, four, and eight hours. The urine was then tested for its germicidal action by inoculating it with dilutions of cultures of colon bacillus and staphylococcus. Of the compounds mentioned, acriflavine appeared to exert the greatest antiseptic action in normal urine against both organisms. Pyridium in doses of 0·4 gm. was inert, as far as inhibiting the growth of the organisms. Hexyl resorcinol in doses of 0·75 gm. was likewise inefficient in causing a normal person to excrete urine which was dependably antiseptic. Hexamine in unit doses of 1 gm. exerted a definite antiseptic action against both organisms in the three samples of urine. In this case the necessity for an acid medium for the liberation of formaldehyde was essential, and ammonium chloride has been suggested for this purpose. Acriflavine administered in capsules containing 0·2 gm. killed both organisms in the four-hour samples of urine with clock-like and unfailing regularity.

Reports

ARMY VETERINARY SERVICE IN INDIA

ANNUAL ADMINISTRATION REPORT FOR THE YEAR 1931-32

The average animal strength of the Army in India, including Remount Depôts, is given as follows:—

Horses	32,943
Mules	28,641
Camels	4,176
Cattle	8,500
Donkeys	124
Elephant	1
	74,385

In the working of the Army Veterinary Service in India there were certain retrenchments during the year, notably the reduction of one British officer, six veterinary assistant surgeons and the Reserve of Indian Other Ranks from 200 to 100. The additional pay of the appointments of Commandant, Army Veterinary School; Officer-in-Charge, I.A.V.C. Records; and the Veterinary Officer, Equitation School, Sangor; was reduced. Courses of instruction at the Army Veterinary Schools at Ambala and Poona were suspended, a matter which is bound to have a detrimental effect on animal management. Nine veterinary hospitals were reduced from Class I to Class II. Ponies maintained in peace for veterinary assistant surgeons were reduced from 97 to 72, and bicycles substituted.

With regard to specific diseases, an outbreak of contagious stomatitis, involving 481 horses, occurred at Secunderabad and was successfully treated with potassium permanganate. Foot-and-mouth disease (898 cases), rinderpest (208 cases), trypanosomiasis (surra), 253 cases, Johne's disease (nine cases), anthrax (16 cases), tetanus (35 cases), showed an increase on last year, but jhooling (16 cases), piroplasmosis—equine—(211 cases), glanders (six cases), rabies (12 cases) strangles in Remount Depôts (1,199 cases), showed a decrease.

Naganol (Bayer 205) was successfully used both for treatment and as a preventive of trypanosomiasis, intravenous injection of one gramme at intervals of a month during the surra season being noteworthy in prevention of the disease during military operations in Burma. Ninety-eight cases of nasal granuloma at Jubbulpore and Bangalore were successfully combated with tartar emetic. Plasmoquine and tryparsamide were used in treatment of equine piroplasmosis, but were no more successful than intravenous injection of quinine acid hydrobromide, which has been used with uniform success for the past 18 years. A vaccine prepared at the Imperial Institute of Veterinary Research, Muktesar, for the control of contagious abortion in the Donkey Stud at Mona Remount Depôt gave unsuccessful results. Experiments are being continued with a view to finding an efficient vaccine for the reduction of incidence of strangles, which in India takes a more virulent form than in other parts of the world.

It is of interest to note that eleven cases of tuberculosis occurred during the year, chiefly amongst cross-bred cows, and that 51 cases of variola occurred at the Military Dairy Farm at Kirkee. Eleven cases of variola also occurred in camels.

J. M.

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BIHAR AND ORISSA, CIVIL VETERINARY DEPARTMENT

ANNUAL REPORT FOR THE YEAR 1931-32*

Major P. B. Riley, I.V.S., the Director of Veterinary Services, was in charge of the department throughout the year and submits the report. A map of the Province, showing the incidence of cattle disease, an illustration of a veterinary hospital, and one of a field veterinary dispensary are included. Owing to financial stringency some curtailment of the activities of the department is reported and the scheme for the appointment of a Disease Investigation Officer is still in abeyance.

Staff.—There was no noteworthy change in the staff employed in the districts, apart from a small increase in the number of veterinary assistant surgeons.

Disease.—On the whole, the year was comparatively healthy, and the outbreaks of disease were not only less in number, but less virulent. There was a considerable increase in the number of preventive inoculations, and some of the difficulties hitherto experienced in providing funds for this expense were satisfactorily overcome. The serum simultaneous method for dealing with rinderpest has not yet been generally adopted. A beginning was made in the use of goat virus produced locally. Glanders and dourine were non-existent, but a rather severe outbreak of anthrax in horses and deer was dealt with. Foot-and-mouth disease was prevalent in all districts, and hæmorrhagic septicæmia was also general. In addition to rinderpest, preventive inoculation was carried out in outbreaks of hæmorrhagic septicæmia, anthrax and blackquarter. There was an increase in the number of cases treated at hospitals and on tour. The new field veterinary dispensaries appear to be popular.

The number of castrations performed on scrub bulls continues to increase.

* Superintendent, Government Printing, Bihar and Orissa, Patna. Price R.1-3-0.

The work performed in the departmental laboratories is worthy of note.

The Veterinary College.—Under Mr. Davis, the Principal, the College has achieved good results. The number of students under instruction was 53. Considerable research work was done at the laboratory of the College under Mr. Malkani. Arrangements were made during the year to open a post-graduate training class at the College. College hostels are provided for post-graduate students and ordinary students. The Patna Cattle-breeding and Dairy Farm is managed by the Principal of the College, and interesting work is being done there.

General.—The Government are pleased to record their appreciation of the efficiency with which the department was administered by Major Riley.

G. K. W.

SHIRE HORSE SOCIETY

The number of entries received for the Shire Horse Society's forthcoming Show from February 21st—23rd created a feeling of general satisfaction at their meeting held at 12, Hanover Square, W.1, recently. Although there has been something of a revival in Shire breeding of late, it was thought by some that the continued low state of farming generally would have a marked effect on the London Show, but actually there is little difference from the immediate past Shows. The entry was reported to be 253, as compared with 271 last year and 268 in 1931. The small difference, moreover, is fully accounted for, inasmuch as the class hitherto provided for two-year-old geldings has been deleted, and as so many more stallions have already been let for the coming season. Almost all of the other classes are actually stronger than last year.

Names which have long been famous in the Shire world again appear in the list of exhibitors, while it is even more satisfactory to see the list interspersed with names well known at Country Shows but which have yet to make their mark at the senior Show.

Entries in the Produce Group Class are numerically the same as last year.

In view of the existing conditions, the balance-sheet was considered to be very satisfactory as, after financing the 1932 London Show to the extent of £1,812, the final cost of the year's working was £668 17s. 7d., as compared with £658 18s. 11d. last year and £1,311 18s. 11d. in 1931. Over the same period the Society's invested funds have appreciated to the extent of £1,650 and now stand at £20,020.

Nine new members were elected.

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The scheme for research into animal diseases, which forms part of a memorial to the late Duke of Northumberland, was outlined by Earl Grey at a meeting of the Northumberland Agricultural Society. He said a three year's programme of research had been arranged for at temporary premises at Cockle Park. In addition to the £3,000 aimed at, it would require £200 annually to carry out these investigations, and it was hoped to secure the necessary subscriptions.

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For being in possession of diseased meat and for not giving notice of slaughter, a trader was fined £20 at Wallingford.

VICTORIA VETERINARY BENEVOLENT FUND

A meeting of the Victoria Veterinary Benevolent Fund was held at the Royal College of Veterinary Surgeons, 10, Red Lion Square, London, W.C.1, on Wednesday, January 4th, 1933.

There were present:—Lt.-Col. J. W. Brittlebank (President) in the chair, Dr. O. Charnock Bradley, Prof. J. B. Buxton, Prof. J. F. Craig, Mr. G. H. Locke, Major-Gen. Sir John Moore, Lt.-Col. P. J. Simpson, Mr. Arnold Spicer, Capt. W. G. Wragg and Lt.-Col. T. Dunlop Young.

The minutes of the previous meeting, held on October 5th, 1932, having been published in the *Veterinary Record*, were taken as read and signed as correct.

Letters of apology for absence were received from Mr. A. Gofton, Major F. L. Gooch, Messrs. P. J. Howard and J. Ewing Johnston.

Death of Former Treasurer

The Secretary reported the death of Mr. E. Alfred West, formerly Treasurer of the Fund.

The President: "You will all have been sorry to learn that our good friend Alfred West passed away recently. The great services Mr. West rendered to this Benevolent Fund were well known to you all. He was always zealous to preserve the funds of the Society, and very businesslike in all his dealings. He had very wide sympathies, and was indefatigable in doing good wherever he could. Personally, I feel a deep sense of loss in the death of Mr. West, deeper than I am capable of expressing. He was always extremely kind to me from the earliest days, and during the time he was Treasurer and I was President he was ever zealous in keeping me informed of everything that was going on, and I should like to place on record our very deep regret at the loss we have sustained by his death. We sent a wreath to the funeral, and were represented."

On the motion of the President, seconded by Lt.-Col. T. D. Young, it was thereupon resolved: "That the sincere condolences of the Council be conveyed to Dr. B. M. R. West and the other members of the family in the great bereavement they have suffered."

Secretary's Report

The following report was submitted by the Secretary:—

	Donations £	s.	d.
Blackwell, W. G.		10	0
Conchie, J. W.	1	1	0
Eaglesham, R.		10	6
Gillespie, J. H.		18	0
Houston, A. (Life Member)	10	10	0
Kennel Club (per A. Cornish-Bowden)	21	0	0
King, Mrs. K.		10	0
Lloyd, H. S., Secretary, Cocker Spaniel Club (per A. Cornish-Bowden) ...	1	1	0
Lothian, W.	1	1	0
Walker, Mrs. (per C. Roberts)	4	4	0
Wright Limited (per A. Whicher) ...		10	6
	41	16	0

Collecting Boxes

Central Veterinary Society ...	1	8	3
Chambers, Major F.		10	0
Conchie, J. W.		17	6
Cormack, J. L....	3	0	0
Derbyshire Veterinary Association	2	4	9
De Vine, Major W. J. B. ...		10	10
Gillmor, Capt. H.	1	11	6
Hewer, Capt. J. R.	1	0	0
Martin, J.	1	1	0
Mid-West and South Wales Division	5	0	0
North of England V.M.A. ...	1	11	9
North of Scotland Division...	1	5	0
North Wales Division ...	1	19	0
Royal Counties V.M.A. ...	4	6	6
Royal (Dick) Veterinary College		15	0
Scottish Metropolitan Division	1	0	0
Taylor, Henry...		5	6
Thomson, J. H.	1	9	6
West of Scotland Division ...		10	0
Western Counties V.M.A. ...	3	0	3
Whicher, A.	3	14	0
Yorkshire Veterinary Medical Association		16	0
Young, W. Jackson	2	18	6
		40	14	10
	£82	10	10

There have also been received the following special subscriptions for the purpose of providing Christmas gifts to recipients:—

	£	s.	d.
Anonymous	2	2	0
Balls, L. S.	10	10	0
Brittlebank, Lt.-Col.	1	1	0
Beeson, A. J.	1	0	0
Whicher, Mrs. A.	1	0	0
Whicher, A.		10	0
Wooldridge, Mrs. G. H.	2	2	0
Wooldridge, Mrs. G. H. (Bridge Party)		14	0
	£18	19	6

The sum of £18 19s. 6d. has been distributed in special grants to 16 recipients, each of whom has written expressing gratitude for the gift.

I have been informed by Mr. W. Jackson Young that as a result of a prize-drawing organised by Mrs. H. S. Elphick and Mrs. Young and supported by the ladies connected with the veterinary profession in the North of England, the sum of £14 5s. was collected. This sum has been distributed to the widows and families of veterinary surgeons in the North of England, including three recipients of relief from this Fund.

The amount shown above of £21 received from the Kennel Club was sent at the suggestion of Mr. A. Cornish-Bowden, in recognition of the services rendered by the veterinary surgeons who officiated for the Kennel Club at the Crystal Palace.

A donation of £100 has been received from the Mid-West and South Wales Division of the N.V.M.A., with a request that the sum be invested to form a separate fund in memory of the late A. S. Adams.

Investments.—Donations amounting to £198 11s. have been invested in the purchase of £200 War Stock Five per Cent. "Assented."

It was resolved: "That the report be approved and that letters be addressed to Mr. Cornish-Bowden, Mr. W. Jackson Young and the Secretary of the Mid-West and South Wales Division conveying the thanks of the Council for the special donations received."

It was further resolved: "That the amount of £100 received from the Mid-West and South Wales Division be invested to form a Fund to be named 'A. S. Adams Memorial Fund.'"

Life Member.—Mr. A. Houston was elected a Life Member of the Fund.

Cases

104. Widow, aged 49. Keeps late husband's mother, aged 83. Has obtained some employment, but insufficient to maintain both.

It was resolved to continue the grant for the present quarter.

155. Mr. A., aged 75. Receives Old Age Pension, but has no other means and is ill. The Executive Committee reported that they had made a temporary grant of 10s. a week.

The action of the Executive Committee was approved and it was decided to continue the grant at the rate of 10s. per week.

158. Widow, aged 41. No occupation. A further application for assistance was received, but it was resolved that no grant be made in this case.

156. Widow. The Secretary reported the death of this recipient, which took place on November 26th, 1932.

165. Daughter of late member. Aged 30. No means, but seeking domestic employment. The Executive Committee reported that they had made a temporary grant of £5. The action of the Executive was approved and the matter was left in their hands with authority to make a grant not exceeding £1 a week until the applicant obtains suitable employment.

115. Member, aged 67. Out of employment. The Secretary reported that the Honorary Secretary had provided this member with clothes, boots, etc., and it was resolved: "That the thanks of the Council be conveyed to the Honorary Secretary for his kind action, and that the grant of 15s. a week be continued."

166. Widow. Needing sanatorium treatment. Capt. Wragg submitted particulars of this case and it was agreed to make a grant not exceeding £1 per week during the present quarter.

Investments.—The Treasurer was authorised to invest in a suitable security the balance remaining in the Donations Account.

FRIESIAN COW'S RECORD

Ten British Friesian cows have now won the distinction of yielding 3,000 gallons of milk in the lactation period. The latest to do so is Lord Rayleigh's five-year-old cow Terling Torch 46th. This is the first cow in the country to give 3,000 gallons of milk with its second calf.

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The Horse Association of America reports that horses and mules are gaining ground steadily throughout the country and that there are now 15,000,000 work horses on farms and 1,200,000 in the cities.

N.V.M.A. Divisional Reports

NORTH OF ENGLAND V.M.A.*

Officers Elected at Newcastle-on-Tyne.

A meeting of this Division was held at Armstrong College, Newcastle-on-Tyne, on December 10th, 1932, when the chair was occupied by the President, Mr. H. Hicks, and the attendance book was signed by the following:—Messrs. W. J. Young, T. R. Jarvie, H. S. Elphick, J. P. Isherwood, C. Nicholson, F. Christopher, J. H. Taylor, A. C. Forbes, C. G. Hill, T. Wilkinson, W. L. Stewart, P. Snaith, W. B. Towell, H. P. Lightfoot, J. D. Peele, E. R. Callender, L. E. Perkins, C. Elphick, F. Pickering, J. W. Rider and J. R. Rider, Hon. Secretary.

Apologies for absence were received from Dr. Bradley, Principal Hobday, Messrs. W. Summers, W. A. Doughty and H. Peele.

The minutes of the previous meeting, having been published in the *Veterinary Record*, were taken as read, and confirmed.

Council Report.—The Hon. Secretary read the report of the Council Meeting held on November 26th, 1932. The report, which comprised mainly matters of domestic concern, was received and adopted.

REPORTS OF DELEGATES TO OTHER BODIES.

1. N.V.M.A.—The Hon. Secretary gave an account of the principal activities of the "National" during the year 1932, and his report was received and adopted.

2. Newcastle-on-Tyne Branch, R.S.P.C.A.—Mr. H. S. Elphick presented his report on the work accomplished at the Newcastle Dispensary, in the following terms:—

"I beg to submit my report on work carried out at the Dispensary for Sick Animals of the Poor at 19, Vine Lane, Newcastle-upon-Tyne.

"From December 1st, 1931, to November 30th, 1932, attendances were given as follows:—Horses, 28 (if the accommodation were better these would undoubtedly increase); dogs, 2,256; cats, 356; birds, 21; other animals, 13; making a total of 2,674, or an average of 25·719 per session. Add to this 52 (horses, dogs and cats) treated in our hospital and the grand total is 2,726.

"I have been much struck by the number of cases of epitheliomata, sarcomata and carcinomata which have been seen, whilst there have been many cases of melanoma, some lipomata and a considerable number of cases of tuberculosis affecting the bowels in cats. There have been several cases of chronic nephritis in dogs and one in a cat. Only one case of osteomalacia has been noted. Other cases have included fractures, dislocations, amputations of digits, various wounds and eye cases, eczema, mange, canker, distemper, gastric and enteric troubles, endometritis, pyorrhœa, etc.

"I still find great pleasure and satisfaction in doing this work, but have lately found it very arduous and, I am afraid, somewhat detrimental to my health. This you will readily understand when I state that, in order to cope with the work, I have, during the last months, started earlier than the advertised time and often not finished until from 10 o'clock to 11.20 o'clock. The premises are really much too small and lack ventilation. Add to this the fact that a gas-fire is necessary and that a geyser and large electric lamp give off much heat and you will agree that the atmosphere is not healthy. The waiting accommodation for patients and their owners is totally inadequate.

"My thanks for very welcome help must be extended to Capt. Miller, Inspectors Waters and Hamilton, Miss Mary Clay (a pupil) and lately to Mr. J. E. Pickering, of Hexham.

"May I take this opportunity of congratulating Messrs. Mitchell and McDowall on the very excellent premises which they, together with the Sunderland Branch of the R.S.P.C.A., have obtained in that town for the carrying on of a similar dispensary? I feel sure they will make a success of it.

"The collecting box in the Dispensary has furnished the sum of £34 1s. 6d., and the cost of drugs and dressings has amounted to £33 19s. 6d. (£17 for last order, yet untouched. The flag day takings came to £250 3s. 10d."

The report was unanimously adopted, the President remarking that the best thanks of the Association were due to Mr. Elphick for his excellent work in the interests of the animals of the poor, and of the profession as a whole.

3. Sunderland Branch, R.S.P.C.A.—Mr. T. M. Mitchell reported on the proceedings at this dispensary, which had recently been opened. He stated that eleven sessions had been held, in the course of which some 119 animals and birds had been brought for treatment. The patients comprised principally dogs and cats, with one hen and one pigeon. During the short time the dispensary had been open the collecting box had produced £2 2s. 2½d., and if continued in the same ratio it was confidently expected that the box would pay the cost of running the dispensary. The work was increasing in volume, and Mr. Mitchell found it very interesting. He also stressed the educational value of the dispensary, especially to the younger members of the profession.

The report was received and adopted, the President, in putting the resolution to the meeting, saying that he thought he was expressing the view of everyone present when he said that the Sunderland dispensary was deserving of the warmest congratulations, especially having regard to the fact that at the outset a measure of doubt had existed in some quarters as to the feasibility of the scheme. The marked success of the Sunderland venture was distinctly a happy omen for the future, and he trusted that it would not be long before other schemes were negotiated with the R.S.P.C.A.

4. Northumberland Agricultural Society.—Mr. C. Elphick submitted a report on the proceedings of the Non-Notifiable Diseases Sub-Committee of this Society, in the following terms:—

* Received for publication January 23rd.

"A meeting of the above was held in the Records Room, Armstrong College, Newcastle-on-Tyne, on November 29th, under the chairmanship of the Earl Grey of Howick.

"The following representatives of the N.E.V.M.A. were present:—Messrs. C. Nicholson (Morpeth), W. Jackson Young (M. of A. and F.), W. Lyle Stewart and Clement Elphick (Newcastle-on Tyne).

"It was unanimously decided to amalgamate this Committee with that of the Committee of the Duke of Northumberland Memorial Fund, with a view to uniformity of action, concentration of work and control. Under finance, it was shown that the fund stands at £3,454 7s. 10d. Cockle Park has been chosen, for the time being, for the initial research investigation, and the disease selected and unanimously agreed upon is "cripples," or rickets, in sheep.

"Representatives of certain influential bodies will be chosen to serve upon the Committee of Management, and I consider the time is opportune for the N.E.V.M.A. to select a representative to serve on such Committee and that the name of the member selected be submitted, through this Association, to Earl Grey of Howick. It would seem somewhat ambiguous that our colleague Mr. Lyle Stewart, who is responsible for carrying out this research work, should be accepted as our representative, as it would be distinctly unfair to him as a member of such Committee to listen to any possible criticism of his work which may, or may not, arise. Furthermore, it is considered that Mr. Stewart will have his hands amply employed in controlling the research work, attending to secretarial duties and work of supervision at Cockle Park.

"I would respectfully move that this meeting of the N.E.V.M.A. do now select their representative for service upon this Committee of Management.

"I have pleasure in offering this report for the meeting's approval and adoption."

A prolonged discussion, in which many members took part, followed the presentation of the report, and it was eventually decided to ask the Committee of Management to agree to the Association being represented officially on the Committee. In the event of a favourable reply being received it was agreed to nominate Mr. C. Elphick and the Hon. Secretary to serve on the Committee.

ELECTION OF OFFICERS FOR THE YEAR 1933.

The nominations made by the Council were unanimously approved, and the elections made as follows:—

President—Mr. H. S. Elphick.

Senior Vice-President—Mr. H. Hicks; *Junior Vice-President*—Mr. A. C. Forbes.

Hon. Auditors—Messrs. F. Christopher and T. M. Mitchell.

Hon. Secretary and Treasurer—Mr. J. R. Rider.

Council—Two members of Council were elected by ballot, and the President declared Messrs. W. L. Stewart and T. R. Jarvie duly elected.

Mr. H. S. Elphick said that, at the last Council meeting, he had made a proposal that the time had arrived when the Association should recognise the services rendered to it by their Hon. Secretary, and the Council had agreed to recommend that a sum of £5 5s. be taken from the funds for this purpose, and that the Secretary be asked to say what form he would like the recognition to take. Mr. Elphick moved accordingly, his proposition being seconded by Mr. Isherwood, and declared carried by the meeting.

The Secretary, in thanking the meeting for their generous appreciation of his services, said that the original proposal made to the Council had taken him completely by surprise, for he had often felt that there had been many shortcomings during his period of office. Therefore he valued the more highly this tribute to his work. So far as he was concerned, he would welcome some small memento of his years of office, if that suggestion met with the approval of the members.

It was then agreed that a presentation should be made at the Annual Meeting.

Paper.—Mr. W. L. Stewart then read his paper on "Cripples in Lambs."

The President, in voicing the thanks of the meeting to Mr. Stewart for his address, hoped that the discussion would be lively and sustained. To many this was a new disease, and although he personally had not encountered it, he could readily understand its importance to those practitioners who were morely intimately concerned with sheep.

[Mr. Stewart's paper is reproduced, together with a report of the discussion which ensued, at the commencement of this issue.—Ed., *V.R.*]

On the conclusion of the business, and at the invitation of the President, the members joined the ladies at tea. The ladies held a Committee meeting to make arrangements for their annual effort on behalf of the Victoria Veterinary Benevolent Fund.

A cordial vote of thanks to the President for his hospitality brought the proceedings to a successful termination.

J. R. Rider, *Hon. Secretary.*

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NORTH WALES DIVISION*

ANNUAL MEETING AT RHYL

The annual meeting of this Division was held at the Imperial Hotel, Rhyl, at 2.15 p.m. on Friday, November 18th. The President, Mr. J. Cane, occupied the chair, and there were also present Messrs. Bate, Cartwright, H. V. Hughes, Llewelyn Jones, W. O. Jones, Lewis, Wynn Lloyd, Roberts, W. T. Rowlands, Savage and Professor Share-Jones. Messrs. Booth, Doyle and Major Storrar attended as visitors. Apologies for absence were read from Messrs. F. Booth, T. Hughes, W. Hughes, W. Jones, Dr. Montgomerie and Mr. Wynne.

ADDRESS ON POULTRY DISEASES

The President, on behalf of the meeting, extended a hearty welcome to Mr. Doyle, of the Ministry of Agriculture, who had come down from

* Received for publication January 21st.

London to address the gathering on poultry diseases. In order that Mr. Doyle might return home that evening he intended to call upon him to speak before the ordinary business meeting was held.

Mr. Doyle delivered an instructive address dealing with some of the commoner disease conditions which were responsible for losses amongst poultry farmers. He gave a brief account of the symptoms, lesions and treatment of those conditions, and stressed the importance of preventive measures in countering the ravages of many of the affections. He particularly urged the members to interest themselves in this branch of their work. The address was illustrated by a number of lantern slides.

In the discussion which followed Professor Share-Jones spoke of the neglect of the industry in Britain which entailed, he said, a loss of millions of pounds which went to other countries. He thought the Ministry of Agriculture should encourage poultry farming, not as a separate branch of agriculture, but as a part of general farming. He made a plea for the support of the small farmer who kept poultry in addition to his other stock. He thanked Mr. Doyle for his stimulating address.

Mr. H. V. Hughes, in proposing a vote of thanks, said he was grateful to Mr. Doyle for coming down that day. He appreciated the fact that his Department was prepared to assist the Divisions in that way, and he hoped the Ministry of Agriculture would realise that it was through the veterinary practitioner that assistance could best be afforded the poultry farmer.

Mr. Wynn Lloyd, in seconding, spoke of some of the disadvantages under which the general practitioner laboured with regard to poultry disease. He thought the practitioner could, as a rule, only hope to act as an intermediary between the poultry farmer and the laboratory.

In his reply, Mr. Doyle expressed his pleasure at being present that afternoon. He was very anxious to stimulate the interest of the veterinary surgeon in this branch of farming. He thought the Ministry of Agriculture always supported the general farmer, but in poultry farming specialist breeding was developing and the small farmer usually did not concern himself with this. He emphasised the necessity, as proved by enquiries, of qualified advice being available to the poultry farmer. He thanked the members for the privilege of being asked to come amongst them to address them.

General Business.—The meeting then considered the ordinary business. The minutes of the previous meeting were taken as read and were confirmed. It was agreed that the Secretary convey a message of sympathy with Mr. Wynne in his indisposition, and Mr. J. Booth was asked to convey a similar message to his father.

Correspondence.—A letter from the N.V.M.A. was read regarding the correspondence which had passed between the Ministry of Agriculture and Professor White, of Bangor. The Secretary was instructed to ask the N.V.M.A. Council to consider the advisability of referring the question to the sub-committee dealing with the Veterinary Advisory Officership scheme.

An enquiry was read from the N.V.M.A. as to the arrangements which members of the Division had made for the treatment of sick animals of the poor. The Secretary was instructed to inform the N.V.M.A. that the practitioners in the Division were acting under the terms of the Decentralised Scheme in conjunction with the R.S.P.C.A. in their district.

Fellowship.—Mr. H. Burrow, of Birkenhead, having been previously nominated, was unanimously elected a Fellow, and Mr. J. Booth, Colwyn Bay, was nominated for Fellowship.

Election of Officers

The following officers were elected for the coming year:—

President.—Mr. R. L. Lewis.

Vice-Presidents.—Mr. H. Llewelyn Jones and Mr. W. H. Savage.

Hon. Treasurer.—Mr. C. W. Cartwright.

Hon. Secretary.—Mr. H. V. Hughes.

Additional Members of Council.—Mr. F. Booth and Mr. G. J. Roberts.

Auditors—Dr. Montgomerie and Mr. W. H. Savage.

Finance.—The Hon. Treasurer then read the financial statement, and was complimented on the satisfactory state of the Society's finances.

N.V.M.A. Congress.—The following members were nominated to serve on the Provisional Committee for the 1933 Congress of the N.V.M.A.:—Messrs. Cane, Lewis, Dr. Share-Jones, Messrs. Wynn Lloyd, H. Llewelyn Jones and the Hon. Secretary.

Vote of Thanks.—A vote of thanks to the retiring President and other officers was carried, and Mr. Cane, in responding, expressed his thanks to the members for their assistance and appealed to them to give the new President every support.

Next Meeting.—The arrangements for the next meeting were left in the hands of the President and Secretary in order that, if possible, it might be held on the same day as the Congress committee meeting.

The meeting then terminated.

H. V. Hughes, *Hon. Secretary.*

PERSONAL

Will.—West, Mr. Ernest Alfred, F.R.C.V.S., of Exmouth, and of Gray's Inn Road, W.C. (net personalty £19,539), £25,467.

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Appointment.—The Colonial Office announces the appointment as Director of Veterinary Services, Tanganyika Territory, of Mr. H. E. Hornby, *O.B.E.*, F.R.C.V.S., D.V.S.M. (Vict.), Deputy Director.

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

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DIARY OF EVENTS

Feb. 13th.—Meeting of the Editorial Committee, N.V.M.A., at 2, Verulam Buildings, Gray's Inn, W.C.1, at 4.30 p.m.

Feb. 15th.—Meeting of the National Committee of the Twelfth International Veterinary Congress, at 2, Verulam Buildings, Gray's Inn, W.C.1, 11.30 a.m. Finance and General Purposes Committee, N.V.M.A., 4.15 p.m.

Feb. 17th.—R.V.C. Students' Union Society Annual Dance, Chiltern Hall, Baker Street, W.

Feb. 22nd.—Annual Dinner of the Midland Counties Division, N.V.M.A., at Birmingham.

Mar. 10th.—Annual Dinner and Dance of the Yorkshire Division, N.V.M.A., at Leeds.

April 1st.—R.C.V.S. Annual Fees due.

April 5th.—R.C.V.S. Committee Meetings.

April 6th.—R.C.V.S. Committee Meetings.

April 6th.—R.C.V.S. Annual Dinner.

April 7th.—R.C.V.S. Council and Committee Meetings.

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MILK REORGANISATION COMMISSION'S REPORT

The report of the Reorganisation Commission for Milk was published on Monday by the Ministry of Agriculture (Economic Series, No. 38, H.M. Stationery Office, price 6d.). The Commission has made thorough investigation into the problems facing the dairy industry of England and Wales, and a scheme for the reorganisation of the marketing of milk has been drawn up for adoption by milk producers under the powers conferred upon them by the Agricultural Marketing Act.

As was only to be expected, certain of the recommendations—particularly those which aim at securing a milk supply in regard to the purity of which the public can have full confidence—are of great interest and moment to members of the veterinary profession. In our next issue, therefore, we shall be reproducing at length the relative passages in the report, with editorial comment.

In the meantime, two recommendations are of such importance as to necessitate reference in this preliminary notice. The Commissioners are firmly of opinion that the compulsory routine clinical examination of all the dairy cows in the country should be undertaken with the least possible delay. They regard this as the most effective measure that could be introduced for tackling the serious problem of the tuberculous infection of the milk supply—short of the cleaning up of the national dairy herd by the slaughter of all reacting cows and heifers: a step which cannot at present be contemplated. To begin with, inspection twice a year might be aimed at, and this work should be in the hands of whole-time officers. The Commissioners are of opinion that the appointment of a whole-time Chief Veterinary Inspector by the Council of each County and County Borough is "the irreducible minimum," and they express the hope that such an appointment will be considered by the great majority of the Councils as the first step only in setting up a whole-time veterinary service, which is essential for the efficient operation of the Milk and Dairies Order, the Tuberculosis Order and the Milk (Special Designations) Order. It is strongly urged that the provision of an adequate veterinary service should be encouraged by substantial assistance from State funds.

The second recommendation of particular interest to veterinarians is that relating to revision of official milk grades. The Commissioners are of opinion that the present nomenclature gives rise to confusion in the minds of the public, and that the best interests of the industry would be served if the existing grading system were simplified by the provision of only one grade of raw milk. This they would call "Special" milk, which would be milk produced under the same conditions as the present "Grade A (T.T.)" milk. "Grade A" should be abolished after a period of, say, two years.

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R.C.V.S. OBITUARY

Earnshaw, William Victor, Veterinary Officer, Vom, Jos, Nigeria. Graduated Dublin, July 24th, 1924; died January 16th, 1933, aged 32 years.

Westgate, Harry George, "Thorpe Underwood," London Road, Leicester. Graduated London, December 14th, 1893; died February 3rd, 1933, aged 60 years.

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Mr. W. V. Earnshaw, M.R.C.V.S.

In connection with the loss of Mr. Earnshaw, Captain W. M. Henderson, Chief Veterinary Officer, N. Nigeria, writes: "It is with the very deepest regret that I have to record the death of Mr. W. V. Earnshaw, M.R.C.V.S., which took place in Lagos, Nigeria, on January 16th, 1933.

"Prior to commencing his studies at the Dublin Veterinary College in 1920, Earnshaw had seen war service in India, Egypt and Palestine from 1916-1920, first with the 11th Hussars and later with the Royal Field Artillery.

"He graduated at Dublin in July, 1924, and in February, 1925, he joined the Veterinary Department of Nigeria.

"By his untimely death at the early age of 32 his brother officers have lost a good friend and a loyal colleague and the Colonial Service—particularly the Veterinary Department of Nigeria—an efficient officer whose capabilities were fully recognised both inside and outside his own department and who, had he lived, would undoubtedly have gone far in the Colonial Service.

"He left a widow and two young sons, and to them his colleagues and numerous friends extend their sincerest sympathy."

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Major H. G. Westgate, M.R.C.V.S.

Mr. Westgate was connected with many business enterprises in the City of Leicester, and was a well-known figure in the hotel trade in the Midlands. For the greater part of his life, however, he practised as a veterinary surgeon, and in that capacity he served in the South African War and the Great War. He reached the rank of Major. After the South African War he spent a long and strenuous period on trek through the veldt, where he did a great deal of pioneering agricultural work, and he had similar experiences later in Australia.

Returning to this country, he continued his veterinary work for many years, with the Ministry of Agriculture.

Subsequently, Mr. Westgate became associated with Sir Arthur Wheeler in the acquisition of the Grand Hotel, Leicester, and was the managing director. He had many theatre and cinema interests in Leicester where, with business associates, he was responsible for the building of the City Cinema in the Market Place, and they controlled it until it was taken over by the Gaumont-British company two or three years ago.

Mr. Westgate was also chairman of the directors of Princes (Leicester) Ltd., from whom the Associated British Cinemas group lease the Princes Theatre.

Mr. Westgate leaves a widow and a son and two daughters by his first wife.

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The Late Mr. John Lawson

In reference to the death of Mr. John Lawson which, as recorded in our last issue, took place at St. Anne's-on-Sea in his 90th year, Major J. H. Wright, of Manchester, writes: "He was undoubtedly an observant and clever practitioner and had a very extensive practice in Manchester as well as in the surrounding counties, having a great reputation amongst the hunting people of Cheshire. He was frequently called in by the Masters of both the North and South Cheshire Hunts (there were two packs in those days) for his professional advice. He acted on several occasions as Examiner of thoroughbred stallions for Government premiums in London.

"During John Lawson's long professional life many pupils passed through his hands. All can testify that he always set them a very high standard to attain as regards the advancement of the profession both by appearance and general conduct of life.

"I am reminded by Major J. H. Taylor, of Darlington, who was one of his pupils, that it was always his firm conviction that every veterinary surgeon should be able to take off a shoe, search the foot for disease and put the shoe on again. He also urged his pupils to be punctual in keeping appointments, keep up a smart and clean appearance, dress well and never on any account enter the premises of a client smoking."

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PERSONAL

Ph.D. Degree for Mr. R. Lovell.—We are pleased to record that Mr. Reginald Lovell, M.Sc., M.R.C.V.S., D.V.S.M. (Vict.), has secured the degree Ph.D. (Bacteriology), of the University of London, Faculty of Medicine, the title of his thesis being "Salmonella Infections of Domestic Animals, with special reference to the Significance of Normal Agglutinins."

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

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TUBERCULIN TESTING

To the Editor of the Veterinary Record.

Sir,—The reports on the double intradermal and subcutaneous tests and their vagaries, published in your issue of the 4th inst., amply prove that even practitioners who have enjoyed an extensive experience of both tests are still far from being in agreement as to the correct interpretation of their results. Mr. Glover, demonstrating the intradermal test in various parts of the country, had almost succeeded in convincing a majority of practitioners that diffuseness indicated a reaction and had convinced an even larger number that for the sake of unity it were better to accept his doctrine, when a representative group of practitioners drawn from the Lancashire Division, headed by Mr. T. Wilson, boldly announced that they doubted the accuracy of the theory of diffuseness and, moreover, quoted numerous cases disparaging to the credit of both tests. They were ably supported by a very capable observer, Mr. R. M. Smith, of Galston, who appears also to have become befogged in the light of his own experience. Whilst one can but feel grateful to these gentlemen for their frank assertions, one can hardly help wondering what may be the result of so public a display of lack of confidence and want of unity in the profession itself, upon the farming fraternity and especially upon that section of the public opposed to our efforts to eradicate tubercle from our herds.

Mr. Wilson is reported to have stated that he did not use broth as a control, because in some cases there was not much difference in the reaction between it and that of tuberculin and the issue was often very confusing. This is surely an unsound argument, since if broth alone be capable of producing a typical, diffuse swelling in a healthy animal, one would hardly be justified in condemning such a subject on the strength of a like or lesser reaction produced by tuberculin.

It is the fixed belief of many observers, including the writer, that the simultaneous injection of broth should be compulsory and that a corresponding broth should be issued with every package of tuberculin. The non-specific swelling of both broth and tuberculin depends mainly upon its glycerine content and varies enormously according to the different brand of tuberculin used and the amount of glycerine contained therein. It is high time that tuberculin should be standardised, both as regards potency and glycerine content.

As a simultaneous control, one may rely upon the subpalpebral test with its small dosage, rather than upon the subcutaneous method. The repeated administration of large doses of tuberculin is liable to produce a degree of tolerance and an uncertain influence over subsequent tests. The subpalpebral injection is not followed, in the healthy animal, by the least degree of swelling, even if experimentally one injects large quantities of tuberculin of high glycerine content. Thus, any pronounced swelling may safely be accepted as a reaction and the doubtful reactor is eliminated.

Yours faithfully,

Vean House, Camborne. R. H. Smythe.

February 6th, 1933.

The Editor acknowledges, with thanks, the receipt of the following:—

Reports of meetings of the South Eastern and the Yorkshire Divisions, N.V.M.A., from their respective Hon. Secretaries.

Communication from Lieut.-Col. J. W. Rainey (Newbury).

ADVERTISER'S ANNOUNCEMENT

In future the Dimol Veterinary preparations will be known and sold under the registered Trade Mark "DIANIMOL" and will be supplied by Dimol (Veterinary) Ltd., but all the preparations will still contain the well-known non-toxic intestinal antiseptic distinguished by the Trade Mark "Dimol" supplied direct to Dimol (Veterinary) Ltd., by Dimol Laboratories, Ltd.